COMMONWEALTH of VIRGINIA

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Summary and Response to Public Comment: Amendments to Point Source Nutrient Control Regulations for Dischargers in the Chesapeake Bay Watershed June 2005

A. Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed (9 VAC 25-40)

1. Comment: Section 40-30 – For nutrient enriched waters outside Chesapeake Bay basin, proposal includes two changes that should be dropped: (1) revises total phosphorus limitation from 2 to 2.0 mg/l, making requirement substantially more restrictive; (2) revises definition of "New Discharger" from permit issuance after 7/1/88 to commencement of discharge after same date, potentially imposing after-the-fact TP limits. (VAMWA, City of Bedford, City of Danville, Western Virginia Water Authority)
DEQ Response: *These amendments have been deleted. Proposed regulation reverts to original wording regarding new dischargers to nutrient enriched waters, and original total phosphorus concentration value.*

2. Comments: Section 40-70. Strategy for Chesapeake Bay Watershed

a. Regulation should not include technology based concentration limits.
(Coors, Honeywell, INVISTA, Virginia Association of Municipal Wastewater Agencies [VAMWA; *comment supported and included by reference:* Alexandria S.A., Augusta Co. S.A., City of Bedford, Chesterfield Co., Town of Culpeper, City of Danville, Fauquier Co. W&SA, Harrisonburg-Rockingham Regional S.A., Hanover Co., HRSD, Henrico Co., Hopewell Regional WWTF, King George Co. S.A., City of Lynchburg, Town of Onancock, Town of Orange, Powhatan Co., Prince William Co. S.A., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, Western Virginia Water Authority], Virginia Manufacturers Association [VMA; *comment supported and included by reference:* BWXT, Greif Bros.])
DEQ Response: *VAMWA's comments are probably the most specific on this issue, were supported by others and incorporated by reference in their submittals. VAMWA recommended deleting the numeric TN and TP effluent limitations, and further stated that the Board may not impose requirements that are more stringent than those required by provisions of the Federal Clean Water Act (CWA). VAMWA also noted that under the CWA, permit limitations to protect water quality standards are allowed. In response to this comment, the revised regulations now focus on the achievement and maintenance of nutrient waste load allocations, and have deleted the minimum technology requirements (biological nutrient removal) that were proposed for all affected dischargers.*

However, elements of the technology-based numerical limitations have been retained in the revised proposal, for the following reasons. The Tributary Strategy Plans guiding the restoration and protection

of Chesapeake Bay and its tidal tributaries, which also provide the basis for the point source nutrient discharge waste load allocations, are being implemented under a watershed approach which relies on both point and nonpoint source control actions. The Board has adopted water quality standards for Virginia's tidal waters and compliance with these standards is the primary objective of the Tributary Strategies, with point source nutrient discharge limitations being a vital part of the implementation plan.

Therefore, the proposed regulations now utilize a provision of the new Nutrient Credit Exchange Program legislation (Section 62.1-44.19:16.B.) that allows the Board to "include technology-based effluent concentration limitations in the individual permit for any facility that has installed technology for the control of nitrogen and phosphorus whether by new construction, expansion, or upgrade. Such limitations shall be based upon the technology installed by the facility and shall be expressed as annual average limitations. Such limitations shall not affect the generation, acquisition, or exchange of allocations or credits pursuant to this article."

The proposed Board policy in this regard is that operation of installed point source nutrient removal technologies at their design efficiency is a necessary contribution for protection of water quality standards. This is in accordance with provisions of the CWA (33USC1312) pertaining to water quality related effluent limitations. In the case where discharges from a point source or group of point sources would interfere with attainment or maintenance of water quality, effluent limitations for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality. Under the Tributary Strategy Plans, the point source contribution to attainment of the river basin nutrient allocations is the operation of stringent nutrient control systems, coupled with the installation, operation and maintenance of extensive nonpoint source control best management practices throughout the Bay watershed.

b. Conform regulation to new Nutrient Credit Exchange Program legislation regarding affected dischargers and specified nutrient control technology-based effluent levels.
(Alexandria S.A., Augusta Co. S.A., City of Bedford, Birchwood Power Partners, BWXT, Chesapeake Bay Foundation, Chesterfield Co., Hampton Roads PDC, HRSD, Harrisonburg-Rockingham Regional S.A., Henrico Co., Honeywell, Hopewell Regional WWTF, City of Lynchburg, MeadWestvaco, Onancock, Powhatan Co., Prince William Co. S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, US EPA Region 3, VAMWA [*comment supported and included by reference:* Town of Culpeper, City of Danville, Fauquier Co. W&SA, Hanover Co., HRSD, King George Co. S.A., City of Lynchburg, Town of Orange, Rapidan S.A., Western Virginia Water Authority], VMA [*comment supported and included by reference:* BWXT, Greif Bros.])
DEQ Response: *The original proposal has been extensively revised to conform with the provisions of the Nutrient Credit Exchange Program legislation (Chap. 3.1, Title 62.1, Sections 62.1-44.19:12 - 19:19, Code of Virginia). In response to this comment, the principal changes made to this section are:*

- *Revised the Board policy statement **from** all dischargers operate at a minimum level of treatment **to** operation of installed nutrient removal technologies at their design efficiencies.*
- *Revised wording to require technology-based effluent concentration limits for dischargers who install nutrient removal technology. Limits will be based upon the technology installed, whether in a new plant, an expansion, or an upgrade. In addition:*
  - *Added wording from the new Nutrient Credit Exchange law for the two cases of expanding dischargers: (1) into the Significant Discharger category – state-of-the-art technology required; and (2) Non-Significant Dischargers above the fall line – biological nutrient removal required.*
  - *Added wording from new Nutrient Credit Exchange law for construction of new plants of any size over 40,000 gpd – state-of-the-art technology required for Significant Dischargers and biological nutrient removal for Non-Significant Dischargers.*

- *Added wording from new Nutrient Credit Exchange law to allow for less stringent treatment limits if owner demonstrates it is not technically or economically feasible to achieve those standards, or the technology is not needed to comply with assigned waste load allocations.*

- *Added a section allowing use of a compliance method that is an alternative to the technology-based effluent concentration limits. Under this alternative, concentration limits may be suspended during the period an Exemplary Environmental Enterprise ("E3") or Extraordinary Environmental Enterprise ("E4") facility has a fully-implemented Environmental Management System that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.*

c. Compliance schedule; two positions expressed:

- Current deadline (December 31, 2010) is appropriate and should be retained. (Chesapeake Bay Foundation, Lord Fairfax SWCD); and
- Extend deadline or have Watershed General Permit define compliance schedule. (BWXT, Coors, Fairfax Co., Hampton Roads PDC, VAMWA [*comment supported and included by reference:* Alexandria S.A., Augusta Co. S.A., City of Bedford, Chesterfield Co., Town of Culpeper, City of Danville, Fauquier Co. W&SA, Harrisonburg-Rockingham Regional S.A., Hanover Co., HRSD, Henrico Co., Hopewell Regional WWTF, King George Co. S.A., City of Lynchburg, Town of Onancock, Town of Orange, Powhatan Co., Prince William Co. S.A., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, Western Virginia Water Authority])

DEQ Response: *All wording has been deleted from the proposed regulation regarding the compliance schedule and 2010 date. As called for by the new Nutrient Credit Exchange law, scheduling will be addressed in the Watershed General Permit (WGP).*

Per Section 62.1-44.19:14.C.2 of the Trading legislation, the WGP must contain a schedule requiring compliance with the combined waste load allocations for each tributary as soon as possible taking into account:

- *opportunities to minimize costs to the public or facility owners by phasing in the implementation of multiple projects;*
- *the availability of required services and skilled labor;*
- *the availability of funding from the Water Quality Improvement Fund, the Water Facilities Revolving Fund, and other financing mechanisms;*
- *water quality conditions and other relevant factors.*

The affected permitted dischargers will have nine months after the initial effective date of the WGP to submit individual compliance plans, detailing how and when they will meet their assigned waste load allocations. After receipt of these individual compliance plans, the Board must re-evaluate the overall schedule and may modify it as appropriate.

In addition to these two positions on the compliance deadline itself, EPA Region 3 provided factors to consider in compliance schedule development and these will be examined during the rulemaking for the Watershed General Permit.

3. General Comment: Provide exemptions for agricultural dischargers and non-contact cooling water. (Birchwood Power Partners)

DEQ Response: *Permitted dischargers of any type may be subject to the regulation, if they fit the criteria for facilities discharging specified "equivalent loads" in the locations identified by the new Nutrient Credit Exchange law. The proposed revisions to 9 VAC 25-40 now define "Point source dischargers" or "dischargers", which excludes non-contact cooling water or storm water.*

B. Water Quality Management Planning Regulation (9 VAC 25-720)

1. Comments: 9VAC25-720-40. Trading and Offsets in the Chesapeake Bay Watershed

a. Two positions expressed:

- Regulation should not include a mechanism for nutrient trading.

(VMA [*comment supported and included by reference:* BWXT, Greif Bros.]); and

- Revise regulation to conform with new Nutrient Credit Exchange Program legislation.

(Alexandria S.A., Augusta Co. S.A., City of Bedford, Birchwood Power Partners, Chesapeake Bay Foundation, Chesterfield Co., Hampton Roads PDC, HRSD, Harrisonburg-Rockingham Regional S.A., Henrico Co., Honeywell, Hopewell Regional WWTF, City of Lynchburg, MeadWestvaco, Onancock, Powhatan Co., Prince William Co. S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, US EPA Region 3, VAMWA [*comment supported and included by reference:* Town of Culpeper, City of Danville, Fauquier Co. W&SA, Hanover Co., HRSD, King George Co. S.A., City of Lynchburg, Town of Orange, Rapidan S.A., Western Virginia Water Authority])

***DEQ Response**: Section 720-40 has been significantly revised, from just a trading section to include several implementation items (details on these specific items are contained in the responses which follow below). All references to trading procedures have been deleted from Section 720-40 since they will be addressed in the Watershed General Permit (WGP). Provisions for delivery factors and delivered total nitrogen and total phosphorus loads have also been deleted from the wasteload allocation tables (Sections 720-50, -60, -70, -110, and -120). Consistent with changes proposed for 9 VAC 25-40, all wording has been deleted from the proposed Water Quality Management Planning regulation regarding the compliance schedule and 2010 date. (See response A.2.c. above for details on the process and factors to be considered in developing the WGP compliance schedule).*

b. Consider regulating only the "bioavailable" portion of the discharged nutrient loads; claim is that refractory organic nitrogen doesn't contribute to nutrient over-enrichment and excessive algae levels.
(Fairfax Co., Loudoun Co. S.A., Philip Morris, Smurfit-Stone, VMA [*comment supported and included by reference:* BWXT, Greif Bros.], VAMWA [*comment supported and included by reference:* Alexandria S.A., Augusta Co. S.A., City of Bedford, Chesterfield County, Town of Culpeper, City of Danville, Fauquier Co. W&SA, Harrisonburg-Rockingham Regional S.A., Hanover Co., HRSD, Henrico Co., Hopewell Regional WWTF, King George Co. S.A., City of Lynchburg, Town of Onancock, Town of Orange, Powhatan Co., Prince William Co. S.A., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, Western Virginia Water Authority])

***Response**: Section 720-40.B now includes wording to the effect that the entire nitrogen and phosphorus waste load allocations assigned to individual significant dischargers are considered to be bioavailable to aquatic life. On a case-by-case basis, a discharger may demonstrate to the satisfaction of the Board that a significant portion of the nutrients discharged by the facility is not bioavailable. In these cases, the Board may limit the permitted discharge to reflect only that portion of the waste load allocation that is bioavailable. This determination will be based on studies that are specific to the facility (not results based on similar plants or industrial classifications). Any such request for a revision of the nitrogen waste load allocation must demonstrate that the portion claimed to be non-bioavailable would not cause or contribute to nutrient over-enrichment, or interfere with attainment or maintenance of water quality over the time frame of months/seasons, as opposed to the inability of the wastewater plant to remove the organic nitrogen during the relatively short time it is held in the treatment process (detention times on the order of hours or days).*

c. Use "net" discharge loads for waste load allocations (accounting for nutrients in surface water withdrawals, used in plant processes and then discharged).
(Birchwood Power Partners, Dominion Power, R. W. Ehrhart, Giant Refinery, Loudoun Co. S.A., VAMWA [*comment supported and included by reference:* Alexandria S.A., Augusta Co. S.A., City of

Bedford, Chesterfield Co., Town of Culpeper, City of Danville, Fauquier Co. W&SA, Harrisonburg-Rockingham Regional S.A., Hanover Co., HRSD, Henrico Co., Hopewell Regional WWTF, King George Co. S.A., City of Lynchburg, Town of Onancock, Town of Orange, Powhatan Co., Prince William Co. S.A., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, Western Virginia Water Authority], VMA [*comment supported and included by reference:* BWXT, Greif Bros.])

***Response**: Section 720-40.C now includes language that recognizes the nitrogen and phosphorus waste load allocations assigned to individual significant dischargers as total loads, including nutrients present in the intake water from the river, as applicable. On a case-by-case basis, an industrial discharger may demonstrate to the satisfaction of the Board that a significant portion of the nutrient load originates in its intake water. In these cases, the Board may limit the permitted discharge to reflect only the net nutrient load portion of the assigned waste load allocation. This demonstration must be substantiated with both influent and effluent monitoring to document the presence of a significant nutrient load in the intake water, as well as calculations of the "net" loads added to the wastewater by the discharger's industrial processes.*

2. Comments: 9VAC25-720-50 (Potomac, Shenandoah River Basin), -60 (James River Basin), -70 (Rappahannock River Basin), -110 (Chesapeake Bay - Small Coastal - Eastern Shore River Basin), -120 (York River Basin). C. Nitrogen and Phosphorus Waste Load Allocations to Restore the Chesapeake Bay and its Tidal Rivers

a. Significant Dischargers requesting increased nutrient waste load allocations.
(Stafford Co, Berryville, Loudoun Co. S.A., Dale Service Corp., Augusta Co. S.A., INVISTA-Waynesboro, Fairfax Co., Frederick-Winchester S.A., Round Hill, Fauquier Co. W&SA, City of Waynesboro, Town of Culpeper, Kilmarnock, Omega Protein, Town of Orange, Rapidan S.A., Giant Refinery-Yorktown, HRSD, New Kent Co., Smurfit Stone, Hanover Co., BWXT, Greif Bros., J.H. Miles, Lynchburg, Philip Morris, Chesterfield Co., Richmond, VAMWA, VMA, Harrisonburg-Rockingham Regional S.A.)

***Response**: DEQ-CBP staff have carefully reviewed these requests in consultation with DEQ Regional Office permit writers, along with additional input from the dischargers when needed. It has been determined that several of the requests merited revisions to the figures used to calculate the proposed total nitrogen (TN) and total phosphorus (TP) waste load allocations (WLAs). The factors examined included:*

- *The design flow that publicly owned treatment works would be certified to operate in the year 2010. In accordance with a policy directive from the Secretary of Natural Resources, full design capacity coupled with stringent nutrient reduction treatment will serve as the basis for calculating TN and TP WLAs. "Design flow" has been defined in the SNR's January 2005 Basinwide Tributary Strategy document as: "The discharge flow authorized by the VPDES permit and/or the capacity under which the wastewater treatment processes will most likely be operating (9VAC25-790-50) in the year 2010." (The Administrative Code citation in parentheses refers to the Certificate to Operate ["CTO"] which is issued by the State to confirm the permitted design flow capacity of the facility). Consideration has been given to plants that are actively involved in plant expansion, with a reasonable assurance that the increased capacity would be in-place and certified for operation in the year 2010. Supporting information included (and in most cases these were taken in combination):*
  - *capital improvements already made to facilities*
  - *schedules and expenditures made for planning, design, and construction*
  - *generic compliance schedules and milestones for other plant expansions/upgrades that routinely span 4 years, and cannot exceed the life of the discharge permit (5 years)*
  - *compliance orders*
  - *provisions for tiered design flows in current permits*
- *The production levels and resulting discharge flows from industrial facilities (since design flow for these plants is not usually a permit parameter), allowing for full use of existing capacity.*

- *The effluent nutrient concentrations for industrial dischargers that reflect both a proportional level-of-effort for reduction compared to municipal publicly owned treatment works (POTWs), and unique characteristics of the wastewater that affect treatability.*

Based on staff review of requested waste load allocation increases, figures in the proposed Water Quality Management Planning Regulation either remain unchanged or have been revised as appropriate to increase or decrease WLAs, as follows:

1) *Stafford Co.-Aquia STP: WLAs revised based on design flow of 8.0 MGD, rather than 6.5 MGD. Tankage for 8.0 MGD is in the ground already, and appurtenances are complete in accordance with a Consent Order; compliance deadline is by June 2006.*
2) *Berryville STP: WLAs originally based on 0.45 MGD, revised to 0.7 MGD. The Town has submitted a Comprehensive Performance Evaluation indicating the existing facility can treat flows up to 0.7 MGD for conventional parameters, but will need upgrade or adjustments before it can operate at that design flow for nutrient removal. Discharge permit revised to include 0.7 MGD flow tier. Based on projected growth and current treatment plant flows, the Town expected to upgrade the treatment capacity to 0.7 MGD by 2009.*
3) *Loudoun Co. S.A.-Broad Run STP: Basis for WLAs remains unchanged. No expectation of CTO for expanded design flow by 2010. Requesting basis for design flow on cost per gallon invested in plant construction does not translate to hydraulic capacity or treatment capability through all unit processes, on which a CTO is based.*
4) *Dale Service Corp.-#1 and #8 STPs: Basis for WLAs remains unchanged. No expectation of CTO for expanded design flow by 2010.*
5) *Augusta Co. S.A.-Fishersville STP: WLAs originally based on 2.0 MGD, revised to 4.0 MGD. The plant already has in the ground 25% of the facilities necessary for 4.0 MGD treatment, and ACSA has committed to a 5-year Capital Improvement Plan to handle debt payments resulting from additional construction needed to bring full plant design flow up to 4.0 MGD by December 2009.*
6) *Augusta Co. S.A.-Stuarts Draft STP: WLAs originally based on 2.4 MGD, revised to 4.0 MGD. The plant already has in the ground almost 90% of the facilities necessary for 4.0 MGD treatment, and ACSA has committed to a 5-year Capital Improvement Plan to handle debt payments resulting from additional construction needed to bring full plant design flow up to 4.0 MGD by December 2009.*
7) *Augusta Co. S.A.-Weyers Cave STP: WLAs currently based on 0.5 MGD design flow. ACSA's request for additional allocation (dated June 7, 2005) based on 3.0 MGD design flow being held pending second public review period on revised regulations.*
8) *INVISTA-Waynesboro: WLAs originally based on 2.97 MGD (outfall 001, final surface water discharge), TN = 3.21 mg/l, and TP = 0.14 mg/l. Reissued permit will have nutrient monitoring at internal outfall 101, which accounts for just wastewater treatment of process flows (excludes stormwater and non-contact cooling water). WLAs revised based on 1.44 MGD, TN = 18.0 mg/l, and TP = 0.23 mg/l which represents treatment equivalent to POTW enhanced nutrient removal (about 75% reduction from influent values). Plant must maintain concentrations now achieved at existing reduced process flow (currently 0.5 MGD) so discharged loads don't increase nearly 3-fold.*
9) *Fairfax Co.-Noman Cole STP: Basis for WLAs remains unchanged. Allowance for bioavailability of organic nitrogen is limited to industrial plants (or municipal plants with significant industrial contribution to the influent), and TP allocation must be based on existing, more stringent permit limit (Potomac Embayment Standards).*
10) *Frederick-Winchester S.A.-Opequon STP: Basis for WLAs remains unchanged. Wet weather tier accommodates increased infiltration and inflow, which is not a design flow for seasonal capacity needs achieving full treatment.*
11) *Frederick-Winchester S.A.-Parkins Mill STP: WLAs revised based on design flow of 3.0 MGD, rather than 2.1 MGD. FWSA has submitted an Action Plan, requested a permit modification to include a 3.0 MGD tier, secured engineering services and is drafting a Preliminary Engineering*

Report. Schedule milestones include solicit bids and start construction by mid-2006, with completion by mid-2009. Request for additional allocation (dated June 9, 2010) based on 5.0 MGD design flow being held pending second public review period on revised regulations.

12) *Round Hill STP: WLAs revised based on design flow of 0.75 MGD, rather than 0.5 MGD. Tankage for 0.75 MGD is in the ground already, and Town anticipates that the additional capacity will be required within the next 5 years. Will require construction of appurtenant equipment, which must have a CTO by December 2010.*
13) *Fauquier Co. W&SA-Vint Hill STP: WLAs based on design flow of 0.6 MGD; this assumption was reviewed by DEQ staff because owner claimed permitted capacity of 0.99 MGD (a 0.95 MGD tier exists in permit). Basis for WLAs remains unchanged; a CTO for 0.6 MGD is expected by 2010, but the 0.95 MGD tier is unlikely to be certified by 2010.*
14) *Fauquier Co. W&SA-Remington STP: WLAs based on design flow of 2.0 MGD; this assumption was reviewed by DEQ staff because owner's comment letter claimed permitted capacity of 2.5 MGD (this flow tier exists in permit). Although tankage for this capacity is in the ground already, all appurtenant equipment still needs to be installed and this is not expected to occur before 2010; therefore, WLAs remain unchanged.*
15) *Waynesboro STP: Basis for WLAs remains unchanged. Reserve for future growth and expansion of the service area is limited to current design flow capacity; increases above WLAs must be offset per Nutrient Credit Exchange legislation, which will be governed under the Watershed General Permit now being drafted.*
16) *Town of Culpeper STP: Basis for WLAs remains unchanged. However, Town must have CTO for expanded design flow (4.5 MGD) by December 2010, or WLAs will decrease based on a design flow of 3.0 MGD.*
17) *Town of Kilmarnock STP: Basis for WLAs remains unchanged. Reserve for future growth and expansion of the service area is limited to current design flow capacity; increases above WLAs must be offset per Nutrient Credit Exchange legislation, which will be governed under the Watershed General Permit now being drafted. WGP will likely consider mechanisms to incorporate non-significant dischargers into larger regional plants with some accounting for at least a portion of their nutrient loads.*
18) *Omega Protein: WLAs revised based on 3.21 MGD (outfall 001 = 3.0 MGD + outfall 002 = 0.21 MGD), and 198 days processing, rather than 3.8 MGD and 123 days processing. Owner claimed design flow of 4.0 MGD for outfall 001 and 0.4 MGD for outfall 002; these are daily peak flow maximums, which is an unlikely operating status to be sustained under normal production conditions. Therefore, the design flow assumption uses long-term average flow figures.*
19) *Town of Orange STP: WLAs originally based on 1.5 MGD, revised to 3.0 MGD. Town has met with DEQ NRO permit staff and expects to submit plans and specifications for expanded facility in January 2006. DEQ anticipates issuing a Consent Order addressing the upgrade/expansion, with a schedule for compliance by 2010 (next permit reissuance is due in February 2006).*
20) *Rapidan S.A.-Wilderness STP: WLAs originally based on 0.75 MGD, revised to 1.25 MGD. The plant already has in the ground approximately 60% of the treatment infrastructure needed for the 1.25 MGD flow tier. RSA anticipates and is planning to have additional units constructed and certified for operation by January 2010.*
21) *Rapidan S.A.-Gordonsville STP: WLAs originally based on 0.67 MGD, revised to 0.94 MGD. The plant already has in the ground approximately 75% of the treatment infrastructure needed for the 0.94 MGD flow tier. RSA anticipates and is planning to have additional units constructed and certified for operation by January 2010.*
22) *Giant Refinery-Yorktown: WLAs based on 53.8 MGD and current effluent nutrient concentrations well below enhanced nutrient reduction levels for POTWs. Owner provided estimates for total potential increases in TN load, resulting from federal requirements to produce low sulfur diesel and gasoline, and "pass-through" of reclaimed water from HRSD-York STP. No information provided about treatability or estimates of the portion of the total TN increase that would enter the process*

wastewater stream. Due to preliminary nature of estimates and lack of detail on treatment options, WLAs remain unchanged. Owner may submit information as it becomes available about treatability, potential use of internal waste streams for monitoring/treatment, and load calculations (to exclude non-contact cooling water, other than reclaimed water from HRSD), or other factors as appropriate.

23) *Hampton Roads Sanitation District: HRSD operates facilities in both the York and James basins, and requested increased WLAs based on the State adopting less stringent nutrient reduction requirements that would still achieve the desired environmental objectives. The WLAs for HRSD plants have now been proposed as final, replacing the interim figures contained in the public comment version of 9 VAC 25-720. Details about the treatment levels used to calculate the WLAs are presented in a later response (see comment B.4, table on page 15).*
24) *New Kent Co.-Chickahominy STP: WLAs originally based on 0.25 MGD, which was an incorrect value for this plant. The correct design flow is 0.405 MGD, and WLAs have been revised using this figure.*
25) *New Kent Co.-Parham Landing STP: Plant is currently permitted with a design flow of 0.57 MGD, and WLAs in proposed regulation were based on this figure. New Kent County is actively involved in a project to expand this facility by February 2009, with extensive sewer construction underway for an expanded service area, as well as plans to take the Chickahominy STP off-line to this plant for treatment. Owner provided schedule for force main extension and plant expansion. Development projections are still being reviewed by the County, but the minimum expansion expected to be built is 3.0 MGD, and this is the design flow used as the basis for revised WLAs.*
26) *Smurfit-Stone: WLAs originally based on 23.0 MGD; owner provided process and instrumentation diagrams to support claim for 26.0 MGD design capacity. Owner-furnished figures used for treatment works (in gallons per minute) were the maximum ratings for unit processes, which is an unlikely operating status to be sustained under normal production conditions ("normal" operation capacity of units totaled 18.4 MGD). Therefore, the design flow assumption remains 23.0 MGD, based on the facility's groundwater withdrawal permit, which is limited to 8.4 billion gallons/year (approximately 23.0 million gallons/day). Owner also requested consideration for the limited bioavailability of nutrients in their discharge, and provided an industry study in support. The assumption that 100% of the discharged nutrients are bioavailable remains unchanged, pending a site-specific study to confirm the request, subject to review and approval by the State.*
27) *Hanover Co.-Totopotomy, Ashland, and Doswell STPs: Basis for WLAs remains unchanged. No expectation of CTO for expanded design flow by 2010 for any of these facilities.*
28) *BWXT: WLAs originally based on 1.0 MGD, which is current design flow of plant; owner provided comments on the design basis for nitrogen discharge that recommend use of annual average daily flow of 0.5 MGD. Owner also submitted detailed engineering study on treatment options and economic analysis to justify alternate TN WLA. Objectives of study were to identify a level of effort and annual cost equivalent to a POTW subject to the regulation. The study concluded that the TN WLA, based on an equivalent level of effort that is both technically and economically feasible, would result in a 40% reduction of both the TN concentration and resulting discharge load. at a flow of 0.5 MGD. If the plant were operated at full design flow (1.0 MGD), to maintain the TN WLA would require about a 70% reduction of the TN concentration, which is equivalent to the enhanced nutrient removal (ENR) treatment levels proposed for POTWs in the James basin. WLAs have been revised based on 0.5 MGD; TN WLA = 187,000 lbs/yr., TP WLA = 1,523 lbs./yr.*
29) *Greif Brothers, Inc.: WLAs originally based on 4.96 MGD; owner provided the design basis and rated capacities for principal subsystems in treatment facility to support claim for 6.5 MGD design flow. Maximum rated capacity for most units ranged from 7.0 to 8.0 MGD, but overall capacity is restricted by aeration capability equivalent to 7.0 MGD. Since owner has not claimed capacity based on maximum ratings for unit processes, WLAs have been revised based on 6.5 MGD.*
30) *J.H. Miles: WLAs originally based on 0.55 MGD, which is current design flow of plant; owner provided comments on the design basis for nutrient discharges that recommend use of annual average daily flow of 0.35 MGD. Owner also submitted detailed engineering study on treatment*

options (very limited) and economic analysis (not economically feasible, would force closure) to justify less stringent WLAs. Additional testing has been performed on treatment options, and WLAs now based on level of effort that is both technically and economically feasible, representing the best practicable treatment available (15% reduction of TN; 50% reduction of TP).

31) *Lynchburg STP: WLAs originally based on 17.4 MGD, the assumed dry-weather flow threshold. City operates a combined sewer system, which may be subject to overflows during wet weather events. In an effort to maximize collection and treatment of combined flow (sewage and stormwater), WLAs were calculated based on the dry weather flow combined with biological nutrient reduction (BNR) treatment. By not requiring more stringent nutrient treatment, the City would be able to apply limited financial resources to continue long-term combined sewer separation program that has significant water quality benefits for the local receiving stream. Above the dry weather flow threshold, only concentration limits would apply (TN = 8 mg/l; TP = 1.0 mg/l). City has requested that dry weather flow value be 22.0 MGD, which is the design flow certified in the discharge permit, and the WLAs have been revised using this figure.*

32) *Philip-Morris (PMUSA): WLAs originally based on assumption that 100% of the effluent nitrogen was bioavailable to aquatic life. Owner has presented data and information to support its conclusion that a significant percentage of the discharge is comprised of refractory, soluble organic nitrogen that is infeasible to treat and does not cause or contribute to water quality impairment conditions in the James River (i.e., algal growth) or in the mainstem of the Chesapeake Bay (i.e., dissolved oxygen). The studies conducted by PMUSA addressed both immediate and long-term impacts (i.e., those appearing on or after 90 days), with final reports to be submitted in July 2005. The State accepts these findings and the TN WLA has been revised, based on just the portion of the discharge that is bioavailable to aquatic life, which is the fraction combining ammonia, nitrite, and nitrate nitrogen totaling an annual average of 2.1 mg/l.*

33) *Chesterfield Co.-Proctors Creek STP: WLAs originally based on 21.5 MGD. At the time this facility was expanded the final requirements for nutrient reduction were unknown, so plant was constructed with a design flow of 27.0 MGD and the ability to achieve year-round nitrogen removal at 21.5 MGD (some capacity was used to create anoxic zones). The intention was to either build additional nutrient removal facilities to achieve year round nitrogen removal at 27.0 MGD, or make minor plant modifications to achieve seasonal nutrient removal at 27.0 MGD depending on the final regulatory requirements adopted by the State. County has decided to upgrade for year-round nutrient reduction at the full design flow capacity, and this is the figure used for revised WLAs.*

34) *Richmond STP: WLAs originally based on 41.46 MGD, the assumed dry-weather flow threshold. City operates a combined sewer system, which may be subject to overflows during wet weather events. In an effort to maximize collection and treatment of combined flow (sewage and stormwater), WLAs were calculated based on the dry weather flow combined with biological nutrient reduction (BNR) treatment. By not requiring more stringent nutrient treatment, the City would be able to apply limited financial resources to continue long-term combined sewer overflow reduction program that has significant water quality benefits for the local receiving stream. Above the dry weather flow threshold, only concentration limits would apply (TN = 8 mg/l; TP = 1.0 mg/l). City has requested that dry weather flow value be 45.0 MGD, which is the design flow certified in the discharge permit, and the WLAs have been revised using this figure.*

35) *Virginia Association of Wastewater Agencies: did not request specific WLA increases for particular plants, but asked for recognition that the proposed WLAs are overly stringent, that the Tributary Strategies for several rivers "overshoot" the basin allocations, and for these reasons the excessive reductions should be redistributed to the point sources. This comment is addressed in a later response on the watershed approach being used to implement the Tributary Strategy Plans (see B.4, on page 14).*

36) *Virginia Manufacturers Association: did not request specific WLA increases for particular plants, but asked that the variance mechanism for concentration-based performance be extended to mass limits also. This would be appropriately tailored to account for the ultimate watershed cap, where a*

discharger can demonstrate that it's loading, or a portion thereof, does not cause or contribute to water quality impairments. This comment is addressed in a later response on the watershed approach being used to implement the Tributary Strategy Plans (see B.4, on page 14).

37) Harrisonburg-Rockingham RSA-North River STP: WLAs currently based on 16.0 MGD design flow. HRRSA's request for additional allocation (dated June 8, 2005) based on 20.8 MGD design flow being held pending second public review period on revised regulations.

In addition to considering requested WLA increases, DEQ staff reviewed the entire list of Significant Dischargers to ensure application of consistent decision criteria among all dischargers, and confirm that earlier assumptions about plant design flows and expected dates of certification to operate (CTO) for plants currently being expanded, newly constructed, or planned for these actions were still valid. Based on the findings from that review, WLA figures either remain unchanged or have been revised as appropriate to increase, decrease, or delete WLAs, as follows:

38) Town of Woodstock STP: design flow assumptions reviewed by DEQ staff. WLAs originally based on 0.8 MGD, the design flow for which the current CTO was issued. However, the plant has in the ground all of the facilities necessary for 1.0 MGD treatment, and is likely to become subject to a Consent Order requiring expansion because daily flows are exceeding 95% of the current permitted capacity. WLAs revised based on 1.0 MGD, with request for additional allocation (dated May 20, 2005) based on 2.0 MGD design flow being held pending second public review period on revised regulations.

39) Stafford Co.-Widewater STP: design flow assumptions reviewed by DEQ staff. WLAs originally based on 0.5 MGD, assuming plant would be certified for operation by 2010. Facility appears unlikely to be built by 2010, as no planning, design, or construction actions have been taken to-date. Plant is recommended for deletion from the Significant Discharger list.

40) Haymount STP: design flow assumptions for this proposed discharge were reviewed by DEQ staff. WLAs originally based on 0.96 MGD, which is the maximum flow tier in permit. Owners and engineers have met with DEQ NRO permit staff (5/2/05) and expect to submit plans and specifications for expanded facility by the end of 2005. It is anticipated that the initial design flow capacity constructed may have tankage for 0.96 MGD, but appurtenances sized for 0.58 MGD. The highest tier will be utilized in the future for the entire plant, but not anticipated by 2010. WLAs revised based on design flow of 0.58 MGD.

41) South Wales STP (Culpeper Co. refers to plant as Clevengers Corner STP): design flow assumptions for this proposed discharge were reviewed by DEQ staff. WLAs originally based on 0.9 MGD (maximum flow tier in permit is actually 0.8568 MGD). Although a Preliminary Engineering Report has been submitted (not yet reviewed by DEQ NRO staff) for 0.9 MGD flow, and the initially constructed plant may have some units sized larger than the design flow for which the CTO will be issued, it is expected that the overall design flow capacity will be 0.6 MGD (a tier in the discharge permit). The highest tier will be utilized in the future for the entire plant, but not anticipated by 2010. WLAs revised based on design flow of 0.6 MGD.

42) Doswell STP: design flow assumptions reviewed by DEQ staff. WLAs originally based on 6.75 MGD, assuming Bear Island Paper Corp. (BIPCo), with current design flow of 4.2 MGD (and shares outfall with Doswell STP, whose design flow is 1.0 MGD) would expand to 5.75 MGD. This expansion is unlikely to occur before 2010. Therefore, WLAs now based on 5.2 MGD total, consisting of the municipal flow portion to Doswell STP (flow = 1.0 MGD, TN = 4.0 mg/l, TP = 0.3 mg/l), and BIPCo (flow = 4.2 MGD, TN = 3.7 mg/l, TP = 1.5 mg/l).

43) Hot Springs STP: WLAs originally based on 0.60 MGD (maximum flow tier in permit is actually 0.65 MGD). Current certified design flow capacity is 0.45 MGD; facility expansion appears unlikely to be built by 2010, as no planning, design, or construction actions have been taken to-date. Therefore, WLAs have been deleted as facility no longer meets the definition of a Significant Discharger (to qualify, a POTW located above the fall line must have a design flow greater than or

equal to 0.5 MGD). If expansion occurs after 2010, it will be addressed under the provisions of the Nutrient Credit Exchange Program legislation.

44) *Tysons-Temperanceville: design flow assumptions reviewed by DEQ staff. WLAs originally based on 1.07 MGD, which was the long-term average discharge flow at this plant, assumed to be maintained into the near future. In reviewing facility information with supporting input from DEQ Regional Office permit staff, the owner's engineer has verified that the 7-day average flow capacity is 1.25 MGD, and this is representative of the plant's "design flow". WLAs have been revised based on this figure.*

45) *Pulp and Paper Mills: DEQ staff reviewed assumptions for feasible treatment levels at pulp/paper mills, to determine values equivalent to enhanced nutrient reduction at POTWs. Based on review of industry fact sheets and treatability studies, as well as EPA effluent guidance materials, the decision has been made to use TN = 3.7 mg/l, and TP = 1.5 mg/l (1.0 mg/l for Smurfit-Stone; see explanation following) to calculate WLAs. The affected plants and design flows are: MeadWestvaco-35.0 MGD, Georgia Pacific-8.0 MGD, Greif Brothers - 6.5 MGD, Smurfit Stone – 26.0 MGD, and Bear Island Paper Co. (discharger shares outfall with Doswell STP)-4.2 MGD. Smurfit-Stone's annual average TP concentration over the past 5 years has been 0.96 mg/l; since the facility is capable of treating to a slightly lower TP level, this discharge value is used to calculate the WLA.*

46) *Poultry Processing Facilities: DEQ staff reviewed assumptions for feasible treatment levels at poultry processing plants, to determine values equivalent to enhanced nutrient reduction at POTWs. Based on review of monitored performance at existing facilities, industry fact sheets, treatability studies, and EPA effluent guidance materials, the decision has been made to use TN = 6.0 mg/l, and TP = 0.3 mg/l (0.1 mg/l for Tysons-Glen Allen; see explanation following) to calculate WLAs. The affected plants and design flows are: Pilgrims Pride-Alma-1.0 MGD, VA Poultry Growers Cooperative-1.5 MGD, Georges Chicken -1.7 MGD, Tysons-Temperanceville – 1.25 MGD, and Tysons-Glen Allen.-1.07 MGD. Tysons-Glen Allen's annual average TP concentration is 0.1 mg/l, which is a permit limit based on local Total Maximum Daily Load requirements; this discharge value is used to calculate the WLA.*

b. Identification of additional Significant Dischargers that should receive nutrient waste load allocations, and requests for allocations for smaller, non-significant facilities.
(Amelia Co., Augusta Co. S.A., Botetourt Co. Public Works, Chesapeake Bay Foundation, Kilmarnock, Loudoun Co. S.A., R. Stuart Royer [W. Randall], Rapidan S.A., Shenandoah Co., Pilgrims Pride-Alma, Culpeper Co., Fauquier Co. W&SA, King George Co. S.A., Dominion Power, VAMWA, R.W. Ehrhart, Aqua-Virginia)

***Response**: During the drafting of Tributary Strategy Plans, a few smaller facilities were identified as potential Significant Dischargers and waste load allocations were provided, accounting for the increased design flow capacity these plants were expected to be operating in the year 2010. Several additional plants that may also fit this description have now been identified by owners that did not participate in the Tributary Strategy process, via comments on the proposed point source nutrient control regulations. Where appropriate, these have been added to the WLA tables in the Water Quality Management Planning Regulation.*

In other cases, where commenters requested WLAs for non-significant dischargers, staff have relied on the "Equivalent Load" definition in the Nutrient Credit Exchange Program legislation, along with provisions for new and expanding facilities (Section 62.1-44.19:15) to deny this request. The "Equivalent Load" figures for various flow volumes were calculated using effluent nutrient concentrations expected from conventional, secondary treatment facilities (without nitrogen or phosphorus removal technology), which are typical for the non-significant plants. The legislative intent of this definition was to allow the smaller facilities to be unaffected by this regulation, so long as they continued to operate at their current design flows. If given WLAs now, the non-significant dischargers would instead be subject to the same stringent nutrient reduction levels that the Significant Dischargers have been assigned. Should a smaller

plant propose an expansion that would exceed the flow volume thresholds in Section 62.1-44.19:15, a specified treatment technology level may apply along with a requirement to acquire waste load allocations sufficient to offset any increase in the delivered total nitrogen and total phosphorus loads that result beyond the permitted design capacity as of July 1, 2005. This is considered equitable, given the relatively minor contribution to delivered nutrient loads from these smaller facilities, proportionately higher cost impact, and limited ability to operate and maintain fairly complex nutrient reduction technology.

Based on staff review of requests for waste load allocations at specific facilities, figures in the proposed Water Quality Management Planning Regulation have either been added, revised or remain unchanged, as follows:

1) *Amelia Co. STP: Plant is currently a non-significant discharger (0.3 MGD design flow, located above the fall line), but County has plans to expand with a recent permit application requesting a design flow of 0.999 MGD. Facility appears unlikely to be expanded by 2010, as no planning or design has been finalized to-date, and no construction schedule has been provided. Therefore, no WLAs have been assigned and expansion will be addressed when it occurs under the provisions of the Nutrient Credit Exchange Program legislation.*
2) *Botetourt Co. Public Works: County requested WLAs for a proposed 1.5 MGD facility (per master planning document for utilities) on the James River upstream of Buchanan, which could be built in the next ten years. Facility appears unlikely to be built by 2010, as no planning, design, or construction actions have been taken to-date, therefore no WLAs assigned and new discharge will be addressed when it occurs under the provisions of the Nutrient Credit Exchange Program legislation.*
3) *Kilmarnock: Requested that allowances be made to account for nutrient loads from non-significant dischargers incorporated into larger, regional plants. See response to comment B.3. below.*
4) *Loudoun Co. S.A.: Requested that (a) WLAs be given to plants that become Significant Dischargers through the combination of flows from two or more treatment facilities that individually are non-significant, and (b) allowances be made to account for nutrient loads from non-significant dischargers incorporated into larger, regional plants. On item (a), the Nutrient Credit Exchange Program legislation makes no provision for assignment of WLAs beyond those identified in the proposed regulation; non-significant dischargers that expand into the Significant Discharger category must acquire WLAs sufficient to offset any increase in the in the delivered nutrient load and must install state-of-the-art treatment. On item (b), see response to comment B.3. below.*
5) *Rapidan S.A.: Requested WLAs for Madison STP (0.08 MGD design flow, located above the fall line). See second paragraph of response to comment B.2.b.above, on page 11. No WLAs assigned to this non-significant discharger.*
6) *Shenandoah Co.-North Fork Regional WWTP: County now owns the Aileen industrial wastewater treatment facility which had gone off-line several years ago. The County has a valid discharge permit for plant with a design flow of 0.75 MGD. Plant has been added to Significant Discharger List, and WLAs have been assigned based on 0.75 MGD. However, plant currently has a certificate to operate (CTO) for 0.1 MGD (treating landfill leachate and sludge dewatering) and no collection system exists. If CTO for 0.75 MGD is not issued by December 2010, WLAs will be deleted and plant removed from Significant Discharger List.*
7) *Pilgrims Pride-Alma: Facility ceased discharging several years ago, so no WLAs were assigned. However, owner has kept discharge permit active and facility exists with a design flow capacity of 1.0 MGD. Therefore, WLAs have been assigned based on this design flow, TN = 6.0 mg/l; TP = 1.0 mg/l.*
8) *Culpeper Co.- Mountain Run STP: This proposed facility was assumed to be below the threshold of a Significant Discharger based on the permit that was current during period when tributary strategy was being drafted. Reissued permit now includes a flow tier of 1.5 MGD, and County intends to construct this size plant and have it certified for operation by 2010. Plant has been added to Significant Discharger List, and WLAs assigned based on 1.5 MGD.*

9) *Fauquier Co. W&SA-Marsh Run STP: County requested WLAs for a proposed facility, to discharge approximately 0.6 MGD ultimately , to alleviate problems with failing septic tanks in the communities of Catlett and Calverton. Facility appears unlikely to be built by 2010, as no planning, design, or construction actions have been taken to-date, therefore no WLAs assigned and new discharge will be addressed when it occurs under the provisions of the Nutrient Credit Exchange Program legislation. County will have the option of distributing the WLAs from the other facility it owns and operates in the Rappahannock basin (Remington STP) between these two plants.*
10) *King George Co. S.A.-Purkins Corner STP: Facility (at 0.06 MGD) was below the threshold of a significant discharger during period that tributary strategy was being drafted. Plant is being expanded with CTO to soon be issued for 0.12 MGD. Plant has been added to Significant Discharger List, and WLAs assigned based on 0.12 MGD.*
11) *King George Co. S.A.-Oakland Park STP: Facility (at 0.04 MGD) was below the threshold of a significant discharger during period that tributary strategy was being drafted. Plant is being expanded with CTO to soon be issued for 0.14 MGD. Plant has been added to Significant Discharger List, and WLAs assigned based on 0.14 MGD.*
12) *King George Co. S.A.-Hopyard Farms STP: During period that tributary strategy was being drafted, this proposed discharge was not assumed to be in operation by 2010. Plant is now being constructed, with expectation that CTO will be issued in late 2005. Plant has been added to Significant Discharger List, and WLAs assigned based on 0.5 MGD.*
13) *Dominion Power: Requested a decision on whether or not their Bremo, Chesterfield, and Chesapeake power stations were Significant Dischargers and therefore should be assigned WLAs. Dominion is now installing, or considering installation of, controls to reduce air emissions of nitrogen and sulfur dioxides year-round at these facilities. A consequence of reducing these air emissions is that a portion of the nitrogen captured or introduced in the treatment process will be added to the wastewater discharge. Based on the information provided, it has been determined that the potential for increased nutrient discharges should be dealt with as follows:*
    - *Bremo: the potential discharge from this plant is estimated to be below the threshold for a Significant Discharger, so no WLAs have been assigned at this time.*
    - *Chesapeake: currently equipped with NOx controls that do not cause any wastewater nutrient discharge. Combination of this equipment with future SOx air emission controls would cause a nutrient discharge; however, it is uncertain if the SOx controls will even be installed (not required at this time), or when that might occur if they are added. For these reasons, no WLAs have been assigned at this time.*
    - *Chesterfield: the potential discharge from this plant is estimated to be above the threshold for a Significant Discharger, so an evaluation was made of the appropriate WLAs to be assigned. Dominion estimated both the nutrient loads that would result in their wastewater discharge based on steady state operation of the air emission controls, as well as the "net" portion (accounting for background loads coming from once-through James River water). Assessments were also made of the technically and economically feasible treatment options that could be used to reduce the discharges. Plant has been added to Significant Discharger List, and WLAs have been assigned based on the net loads discharged with no further treatment, for the following reasons. Dominion cannot identify any viable treatment processes available for their wet ash handling system, and conversion from wet to dry ash processing would be prohibitively expensive. Dominion will continue to operate their ammonia-control plan, required by the discharge permit, which focuses on the objectives of meeting NOx targets while minimizing ammonia transfer to the wastewater. This is considered equitable, given the fact that the NOx air emissions are expected to be reduced by almost 26.5 million lbs./yr., will provide significant improvements in air quality, and decrease the amount of nitrogen delivered annually to the Bay via deposition. While the amount of delivered nitrogen reduction cannot be estimated with any certainty, it is reasonable to assume that the reduction should at least be equal to the 352,000 lbs./yr. of TN estimated to be discharged to water.*

3. General Comment: Provide incentives for "regionalization" and combining of smaller, obsolete plants, or other "trading" considerations for non-significant dischargers.
(Aqua Virginia, Chesapeake Bay Foundation, Kilmarnock, Loudoun Co. S.A., New Kent Co., Powhatan Co., R. Stuart Royer [W. Randall], Rapp. Westminster-Canterbury, Spotsylvania Co.)
***Response**: The rulemaking for the new Watershed General Permit (WGP), authorized by the Nutrient Credit Exchange Program legislation, will likely consider mechanisms to incorporate non-significant dischargers into larger regional plants with some accounting for at least a portion of their nutrient loads. Consolidating older, obsolete plants into newer facilities with improved nutrient reduction capabilities would be a desirable outcome of the new Trading legislation, and the WGP will consider provisions to encourage this.*

However, some commenters requested an additional consideration on this issue which was allowance for the inter-basin transfer of nutrient loads. There are several localities in the Bay watershed that drain to more than one major river basin, and in some cases are proposing the consolidation of flows from plants that do not discharge into the same tributary. The request to increase the waste load allocations for the plant receiving the transferred discharge cannot be approved, due to a provision of the new Nutrient Credit Exchange Program legislation. Under Section 62.1-44.19:15 (New or expanded facilities), the owner of a permitted facility must acquire waste load allocations to offset any new or increased delivered nutrient loads. There are options provided for acquiring these allocations, but if all or a portion of the waste load allocations come from one or more other permitted facilities, they must be in the same tributary.

4. General Comment: Opposed to adopting James and York waste load allocations until after approval of final water quality standards for these basins; consider less stringent requirements that can achieve same environmental objectives.
(Bath Co., BWXT, Hampton Roads PDC, HRSD, Hanover Co., Henrico Co., Hopewell Regional WWTF, Maury Service Auth., Powhatan Co., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, VAMWA [*comment supported and included by reference:* Chesterfield Co., City of Lynchburg, Western Virginia Water Authority])
***Response**: The Tributary Strategy Plans guiding the restoration and protection of Chesapeake Bay and its tidal tributaries, which also provide the basis for the point source nutrient discharge waste load allocations, are being implemented under a watershed approach which relies on both point and nonpoint source control actions. The Board has adopted water quality standards for Virginia's tidal waters and compliance with these standards is the primary objective of the Tributary Strategies, with point source nutrient discharge limitations being a vital part of the implementation plan.*

Nutrient loads in the York and James basins have long been recognized as having a minor influence and impact on water quality conditions in the mainstem Chesapeake Bay. However, the tidal York and James are still an important part of the ecology of the Bay proper, and contain essential habitat supporting the Bay's living resources. For this reason, decisions about these basins' total nutrient allocations (point and nonpoint source inputs combined) have focused on achieving water quality standards and protecting designated uses within the tidal portions of the rivers themselves. Setting the final total basin nutrient allocations for the York and James will need to recognize that these impaired waters require significant reductions from current loadings to comply with Virginia's new tidal water quality standards.

In response to comments on the draft tributary strategies, the Secretary of Natural Resources issued a policy statement in August 2004 regarding the role that point source dischargers have in the nutrient reduction effort. At the core of that statement were guiding principals for establishing point source waste load allocations, which included provisions for the full use of existing design capacity at each of the significant municipal and industrial wastewater treatment plants, and application of currently available, stringent nutrient reduction technologies at those plants. These principals reflect the policy decision to seek nutrient reductions to the maximum extent practicable at the point sources, even approaching state-of-the-art treatment, and recognize that nutrient removal by the point sources is highly reliable, cost effective,

measurable, enforceable, and critical to achievement of our water quality objectives. Coupled with these point source controls, the Tributary Strategies include nonpoint source reduction actions that primarily involve installation and long-term maintenance of best management practices on a significant majority of the agricultural, forest, and urban/suburban acreages in the Bay watershed.

The Secretary's point source policy has now been applied to the significant dischargers in the York and James basins. The resulting waste load allocations replace the "interim" allocations contained in the January 2005 Basinwide Tributary Strategy Document for these tributaries. The nutrient concentrations used to calculate the revised allocations are as follows:

Tributary - Region	*Values* Used to Set Waste Load Allocations*	
	Annual Average Nitrogen Concentration	*Annual Average Phosphorus Concentration*
York – entire basin	*4.0 mg/l*	*0.3 mg/l*
James – above fall line and tidal fresh regions	*4.0 mg/l*	*0.3 mg/l*
James – lower estuary	*8.0 mg/l*	*1.0 mg/l*

**NOTE: some exceptions to these concentration levels have been made for dischargers with special circumstances (e.g., unique characteristics and treatment capabilities regarding industrial wastewaters; localities with combined sewers).*

The remaining nutrient reduction will need to be accomplished by the nonpoint sources in order to achieve the water quality standards.

5. General Comment: Serious concerns that the two draft nutrient control regulations may have detrimental impacts on Occoquan Reservoir water quality. The removal of too much nitrate from UOSA's discharge could degrade water quality in the Reservoir and possibly water bodies downstream. In fact, the Occoquan Watershed Monitoring Laboratory has verified that nitrate is critical to the health of the Reservoir. Also concerned about the impact that denitrification would have on some of the advanced wastewater treatment processes that are unique to UOSA. These changes could result in a degraded effluent discharge, which is contrary to the intent of the Occoquan Policy.
(Upper Occoquan Sewage Authority Board of Directors, UOSA Nutrient Technical Committee)
***Response**: The State agrees that this important resource, providing drinking water to over one million northern Virginia residents, must be protected at the same time that efforts are made to restore and protect the Chesapeake Bay and its tributaries. The WLAs proposed for the UOSA STP are based on the current, full design flow capacity, nitrogen levels achieved by biological nutrient reduction technology (annual average concentration of 8.0 mg/l), and phosphorus levels required by the discharge permit (0.1 mg/l). The nitrogen WLA is approximately equal to the current annual discharge from the plant to the reservoir, which is apparently protective of water quality conditions. Maintaining the nitrogen WLA in the future as plant flow increases may require a more stringent degree of denitification, but not as stringent as the discharge permit currently requires in the event that the nitrate trigger value (5.0 mg/l) at the Fairfax water intake is exceeded. It is reasonable to assume that technological limitations will not prevent UOSA from achieving BNR treatment levels; however, the Nutrient Credit Exchange Program legislation offers options for a discharger to use in addition to treatment.*

6. General Comment: State should encourage reclamation-reuse and land application as alternative nutrient reduction technologies.

(Lord Fairfax SWCD, S.I.L.-Clean Water)
***Response**: The State agrees that these are options that should be explored, and supports their use under the appropriate conditions and operational requirements.*

7. General Comment: Question on whether small western coastal basins will be included with the larger tributaries for trading purposes.
(Middle Peninsula PDC)
***Response**: Yes, the small western shore coastal basins are associated with the larger, adjacent tributary basins, and any permitted dischargers with wasteload allocations may trade with other dischargers in the same tributary.*

8. General Comment: Proposed delivery factors are the same for all dischargers within a Watershed Model Segment. This results in an arbitrary approximation, inequality among dischargers, and inefficiencies in the trading system. Suggest scaled delivery factors or method to calculate these based on river mile location of discharger above or below the midpoint of a segment.
(BWXT, Maury Service Auth., VAMWA [*comment supported and included by reference:* Alexandria S.A., Augusta Co. S.A., City of Bedford, Chesterfield Co., Town of Culpeper, City of Danville, Fauquier Co. W&SA, Harrisonburg-Rockingham Regional S.A., Hanover Co., HRSD, Henrico Co., Hopewell Regional WWTF, King George Co. S.A., City of Lynchburg, Town of Onancock, Town of Orange, Powhatan Co., Prince William Co. S.A., Rapidan S.A., City of Richmond, Rivanna W&SA, South Central Wastewater Authority, Spotsylvania Co., Tappahannock, Western Virginia Water Authority])
***Response**: As noted in response to comment B.1.a., all references to trading procedures have been deleted from the proposed regulation since they will be addressed in the Watershed General Permit (WGP). The suggestion for modifying the delivery factors will be presented to the WGP Technical Advisory Committee for their consideration and discussion.*